

APPLICATION FOR APPROPRIATION OF WATER SUPPLY FOR USE IN COLORADO

NOVEMBER 7, 2018

INDEX - UTAH CODE
TITLE 73 - WATER AND IRRIGATION
CHAPTER 3A - WATER EXPORTS

HEARING SUBMITTAL TO
DIVISION OF WATER RIGHTS

Right No.: 41-3747 (A81080)

Date: 7 Nov 2018

Submittee: APPLICANT

WATER Horse Resources
Aaron Michon

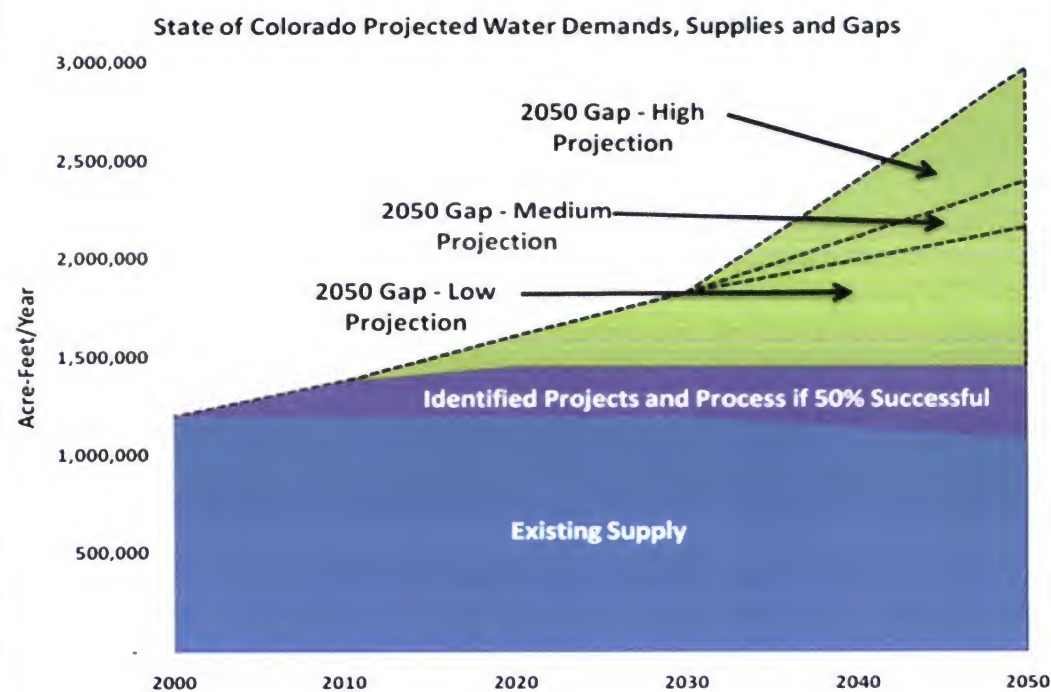
SUMMARY OF TODAY'S PRESENTATION

- System and Background
- Short Project History
 - Demand & Solution
 - Permitting & Engineering
- Consultants & Team
- Availability in the System
- Feasibility
 - Physical
 - Economic
- Financial Ability
- Non-Speculative
 - Interest & Need
 - Legal Use of Water
 - Water & Energy Storage
- Utah's Role
 - Interstate Cooperation
 - Utah Control
- Project Summary
 - Overview
 - Advantages

SHORT HISTORY OF THE PROJECT



DEMAND & SOLUTION



PERMITTING & ENGINEERING



**US Army Corps
of Engineers®**

- Completed 9 Public Scoping Meetings
- Final Purpose and Need Developed
- “The primary purpose of the project may now change to electrical power generation, an activity appropriately under the purview of the Federal Energy Regulatory Commission.”
- Prior Work/Permitting
- 2009 Started formal EIS NEPA
- Scoping, Demand, Purpose and Need
- 2013 Flaming Gorge Task Force
- 2013 SWSI Report
- 2015 Governor’s Water Plan
- 2017 Strategic Advisory Board
- 2017 Utah Application
- 2018 Re-enter EIS NEPA
- 2020 ROD

THE PROJECT HAS BEEN CURRENTLY ENGINEERED TO MAXIMIZE HYDROPOWER AND RENEWABLE ENERGY OPPORTUNITIES AND DRAW A MUCH SMALLER QUANTITY OF WATER

CONSULTANTS & TEAM

CONSULTING TEAM

- **Aaron P. Million** - Principal
- **Nathaniel (Nate) Budd** - Business Development
- **Mike Connor** – Former Commissioner of the Bureau of Reclamation; natural resources, energy development, environmental compliance; WilmerHale
- **Andy Spielman** - Preeminent public lands, environmental and natural resources; WilmerHale
- **Raya Treiser** - Environmental regulatory and natural resources; WilmerHale
- **Dr. Jeris Danielson** - Former Colorado State Engineer; Engineering and Colorado Political; Danielson and Associates; Hydrology
- **Sherman Hebien** – Former senior aquatic biologist on the Western Slope for the Colorado Division of Wildlife
- **Rich Hall** – Utah/Wyoming Counsel
- Previous Consultants include:
 - **James Lochhead**, head of Denver Water;
 - **Larry Anderson**, former head of Utah Water Resources ,
 - **Jody Williams**, Utah legal counsel,
 - **Joe Hall**, Bureau of Reclamation, Boyle Engineering and other respected water/policy/legal/professionals,
 - **William Hillhouse II** - Chief Legal Counsel; Hoskin Farina & Kampf, PC LLP
 - **Steve Freudenthal** - Former Wyoming Attorney General; Lead Counsel relating to Wyoming State Issues
 - **James Spensley** - EIS/NEPA permitting specialist; Spensley & Associates, Partner
 - **Mitchell Butler** - Washington D.C.; Natural Resource Results LLC
 - **Gordon W. (Jeff) Fassett** - Former Wyoming State Water Engineer; Engineering and Wyoming Political Consulting; National Head of Water Resources, HDR

STRATEGIC TEAM



SNC LAVALIN

End-to-End Services



CENTRAL COLORADO
WATER CONSERVANCY
DISTRICT

Operations



GARNEY CONSTRUCTION

Construction Services



ENSITE USA

Project Manager



PIPELINERS LOCAL UNION
798

Sustainable Design Consultant



MICHELS CORPORATION

Tunneling



SOUTHLAND HOLDINGS

Project Manager



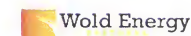
PHILLIPS & JORDAN

Sustainable Design Consultant



BRIERLEY ASSOCIATES

Tunneling



WOLD ENERGY PARTNERS

Project Manager



MINERAL RESOURCES

Sustainable Design Consultant

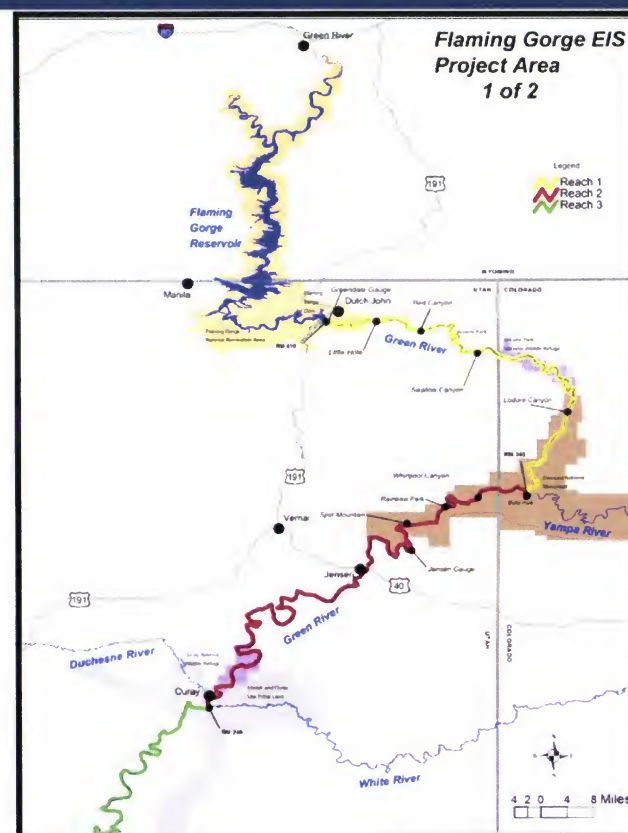
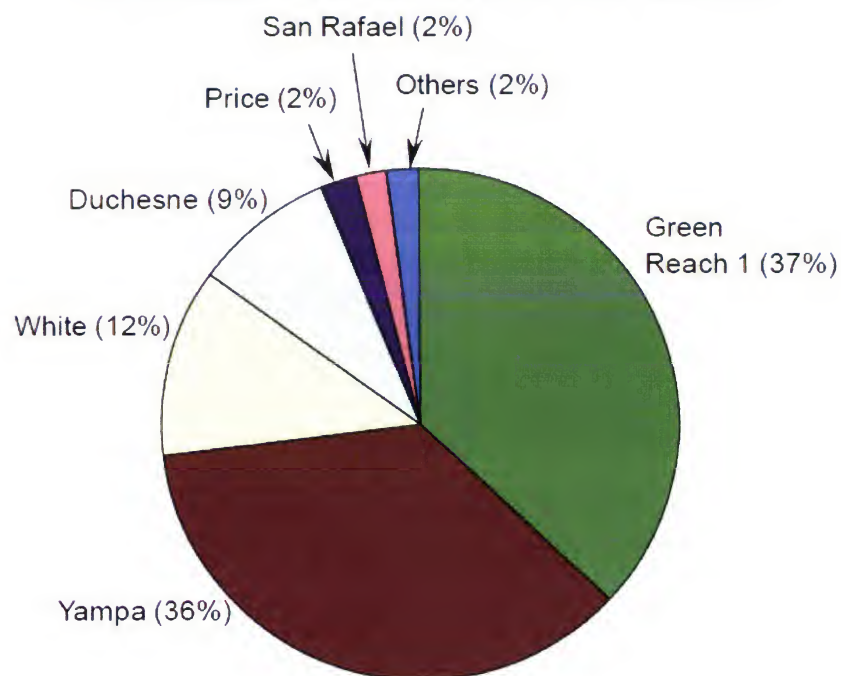
THOROUGH WORK HAS BEEN DONE ON THIS PROJECT. AS WILL BE EXPLAINED FURTHER, IT IS A VIABEL AND FEASIBLE PROJECT FOR AN AVAILABLE WATER SUPPLY THAT WILL NOT INTERFERE WITH OTHER USES AND FITS WITHIN AND CAN HELP ADRESS OTHER ISSUES AND NEEDS IN THE UPPER COLORADO RIVER BASIN.

AVAILABLE WATERS IN THE SYSTEM

- (I) FOR AN APPLICATION TO APPROPRIATE, THERE IS UNAPPROPRIATED WATER IN THE PROPOSED SOURCE;
- (II) THE PROPOSED USE WILL NOT IMPAIR EXISTING RIGHTS OR INTERFERE WITH THE MORE BENEFICIAL USE OF THE WATER;

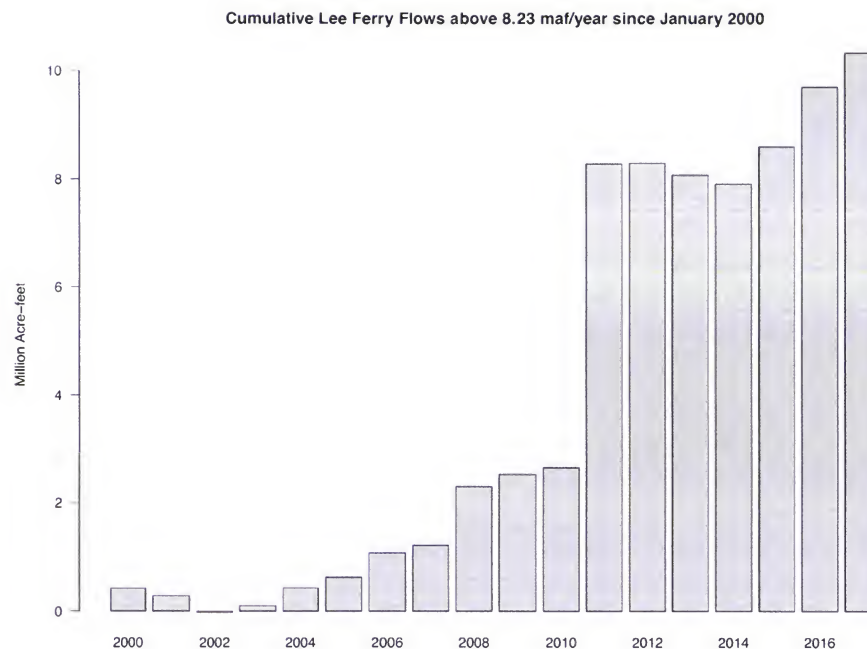
GREEN RIVER SYSTEM

Percent contributions of tributaries
to annual flow volume of the Green



UPPER BASIN HAS OVER DELIVERED TO THE LOWER BASIN

- Since 2000, the Upper Basin has delivered 9.7 million acre-feet (Maf) above the amount required under the current rules.
- The Upper Basin has only been using approx. 4-4.5 Maf of water a year, well below its CO River Compact entitlement.
- The Lower Basin has fully developed its entitlement to water under the CO River Compact.
- Per Reclamation's most recent Consumptive Use Loss Report (2010-2015) and Hydrologic Determination (2007) – CO is entitled to develop at least 500,000 af more water



Boyle Engineering (2006)

700,000 ac-ft/yr to over 1,160,000 ac-ft/yr.

Bureau of Reclamation (2007)

165,000 acre-feet per year.

Williams & Weiss (2017)

219,023 AFY (for 1983 to 2016 record)

Williams & Weiss Analysis

- **State of Colorado** – Compact share 51.75
- Approximately 14.7 mm acre feet flows past Lees Ferry
- Upper Basin delivers 7.5mm acre feet to Lower Basin plus 1.5mm to Mexico Treaty
- Leaves 5.7 mm acre feet for Upper Basin use
- Colorado has 51.75% of 5.7mm - 2.95mm acre feet avail
- Current Colorado use average is – 2.450 mm acre feet used

LEAVES 500,000 acre feet on average

for Colorado Compact share

PROJECT (S) DEVELOPMENT

Using the Green River near Greendale, Utah flows as representative of the river flows near the proposed diversion point, the availability of flow during average hydrological conditions is:

Flow Availability = $1,390,778 - 1,171,755 = 219,023$ AFY (for 1983 to 2016 record)

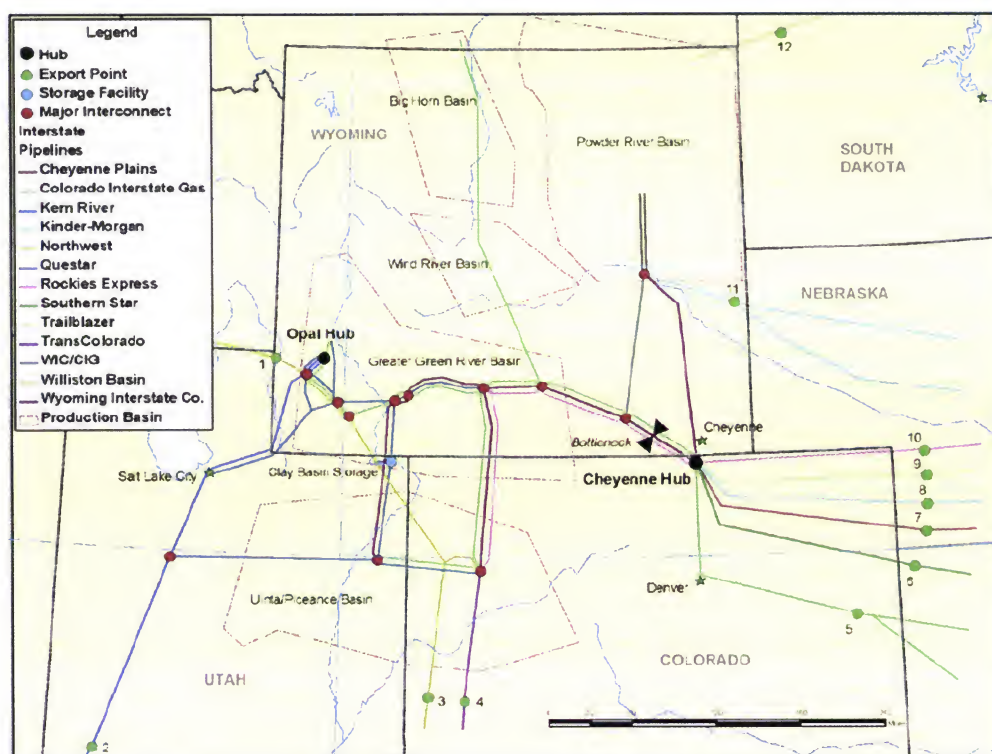
In Reach 2, downstream of the Yampa River confluence near Jensen, the availability of river flows increases significantly:

Flow Availability = $2,980,232 - 1,908,439 = 1,071,793$ AFY (for 1983 to 2016 record)

FEASIBILITY

- (A) IS PHYSICALLY AND ECONOMICALLY FEASIBLE, UNLESS THE APPLICATION IS FILED BY THE UNITED STATES BUREAU OF RECLAMATION; AND
- (B) WOULD NOT PROVE DETRIMENTAL TO THE PUBLIC WELFARE;

PHYSICAL FEASIBILITY



- I-80 Designated Federal Energy Corridor
 - In accordance with Section 368(a) of the Energy Policy Act of 2005 (EPAAct), the BLM designated 5,000 miles of energy corridors (commonly referred to as “Section 368 energy corridors” or “West-wide energy corridors”) for potential placement of future pipelines and electricity transmission and distribution infrastructure.
 - There are numerous pipelines already in place that parallel the project route

ECONOMIC FEASIBILITY

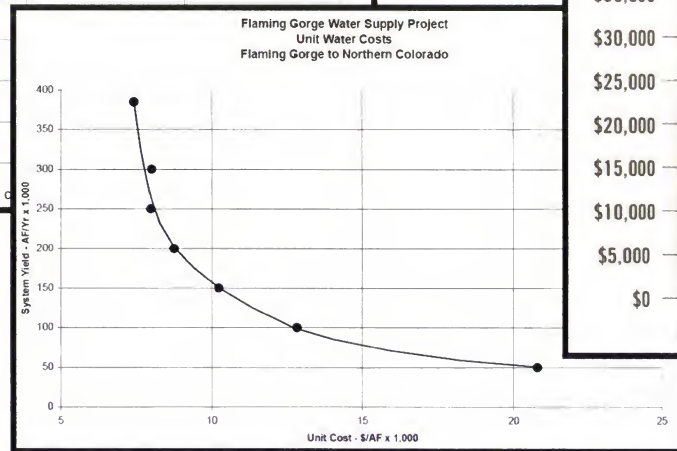
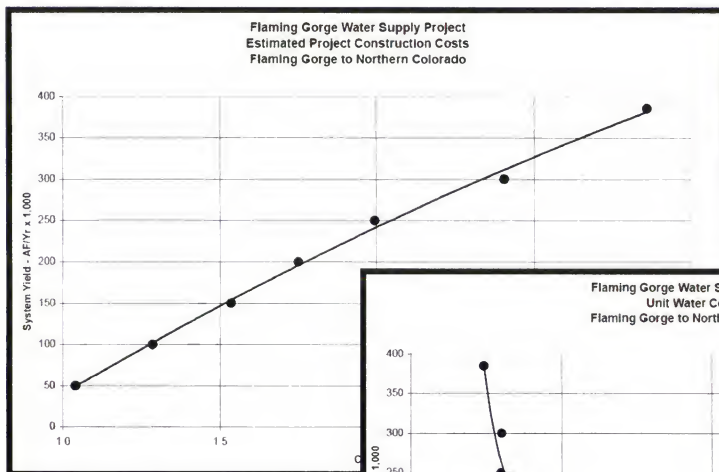
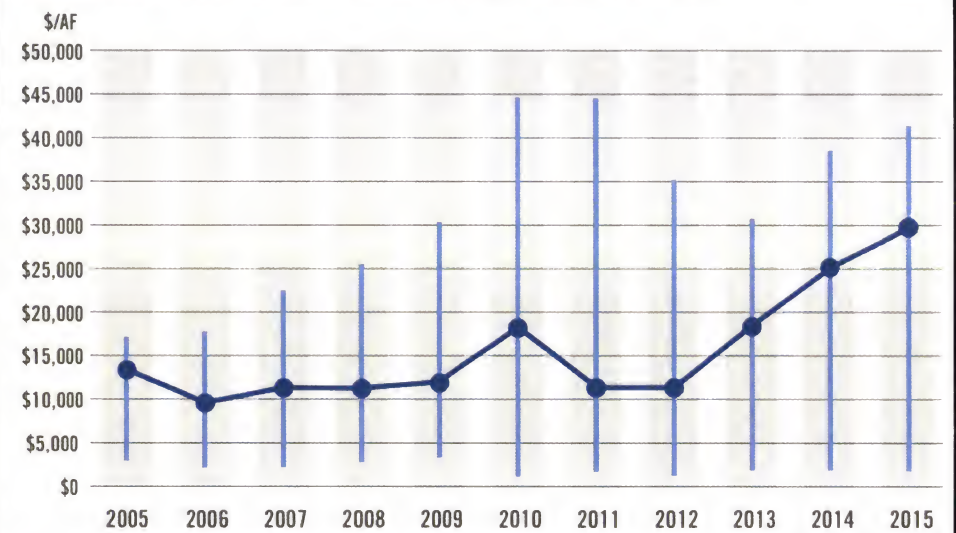


Figure 3: Average South Platte Basin Price and Range of Prices from 2005-2015



THE PROJECT HAS RECEIVED LETTERS OF INTEREST FROM COLORADO STAKEHOLDERS TOTALING 345,000 AF

FINANCIAL ABILITY

(IV) THE APPLICANT HAS THE FINANCIAL ABILITY TO COMPLETE THE PROPOSED WORKS;



PROJECT FINANCING

- Project will follow a PFI/PPP model
 - Issued Request for Proposals for Design/Build/Finance/Operate Concessionaire
- \$7.5mm - \$8mm plus invested to date
 - No taxpayer dollars
- \$250mm dollar Previous Term Sheet from a well-known global institutional investor to invest in pipeline construction
- Recent offer from large infrastructure construction firm

PROJECT FINANCING INTERESTS

Soros Strategic Partners LP

- Georg Soros backed private investment vehicle with \$25+ billion family office
- Executed investment term sheet



- EPCOR USA is among the largest private water utilities in the Southwest
- Current interest includes overall financing and operations via teaming agreement

Arlo Richardson Family

- Oil and gas private investment Utah/Colorado Family Office
- 10% Private Equity Partner



- Global investment bank and financial services company

NON-SPECULATIVE

(V) THE APPLICATION WAS FILED IN GOOD FAITH AND NOT FOR PURPOSES OF SPECULATION OR MONOPOLY

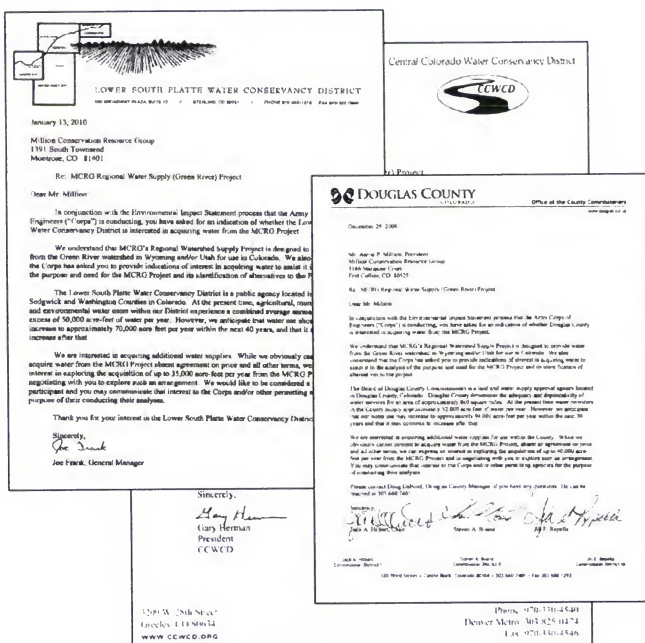
UT law (Section 74-3-8(2)(c)), specifically recognizes and encourages securing a conditional right with an appropriate time to fully develop and perfect the right

INTEREST & NEED

Colorado Letters of Interest totaling 345,000 acre-feet

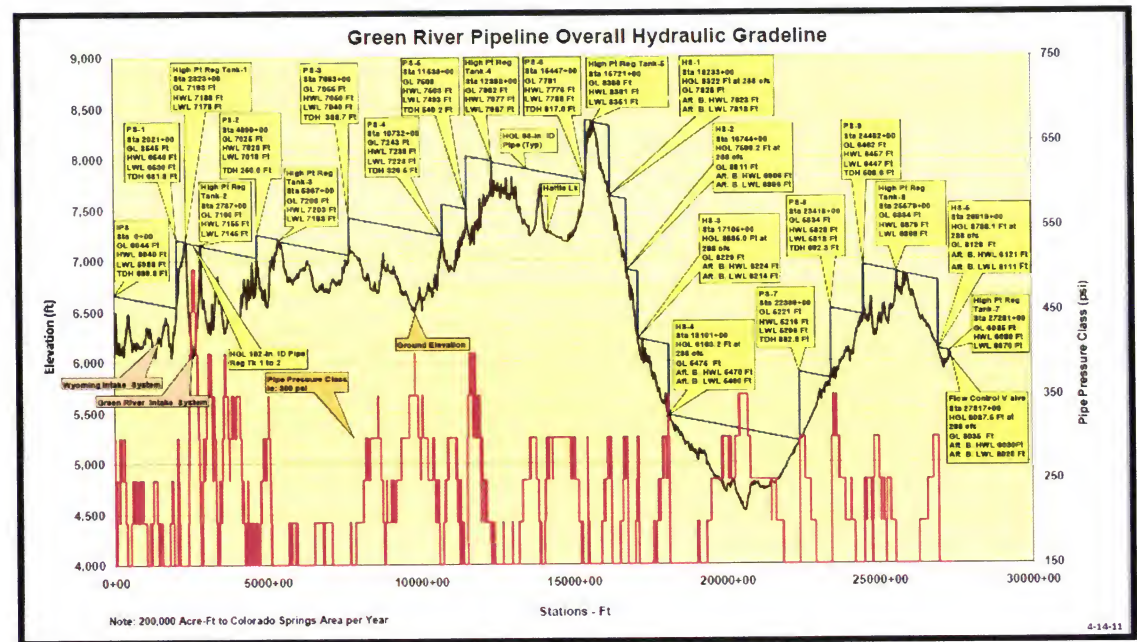
Colorado's Water Plan sets a measurable objective of reducing the projected 2050 municipal and industrial gap from as much as 560,000 acre-feet to zero acre-feet by 2030. The Flaming Gorge Pipeline has been included in these identified projects and processes (IPPs).

COLORADO'S WATER PLAN



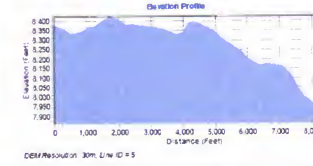
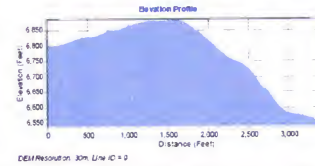
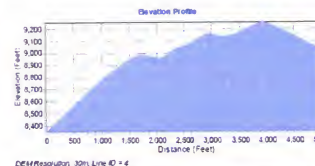
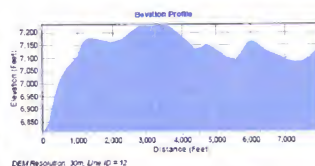
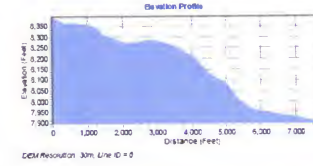
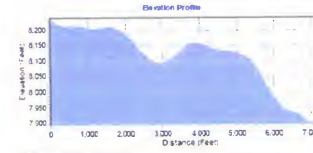
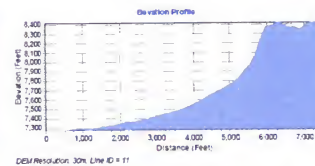
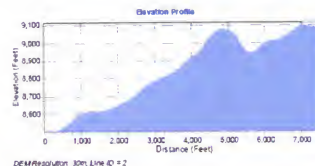
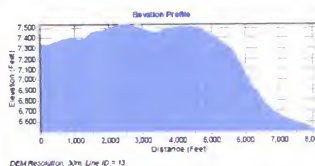
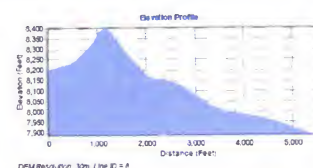
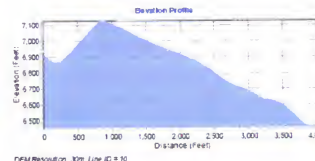
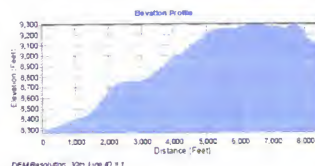
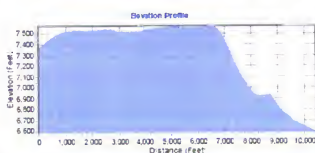
LEGAL USES OF WATER IN COLORADO

1. Hydro power
2. Environmental In-Stream Flows
3. Storage
4. Agricultural
5. Industrial
6. Municipal



WATER & ENERGY STORAGE

Pumped Storage Profiles:



WATER RIGHTS

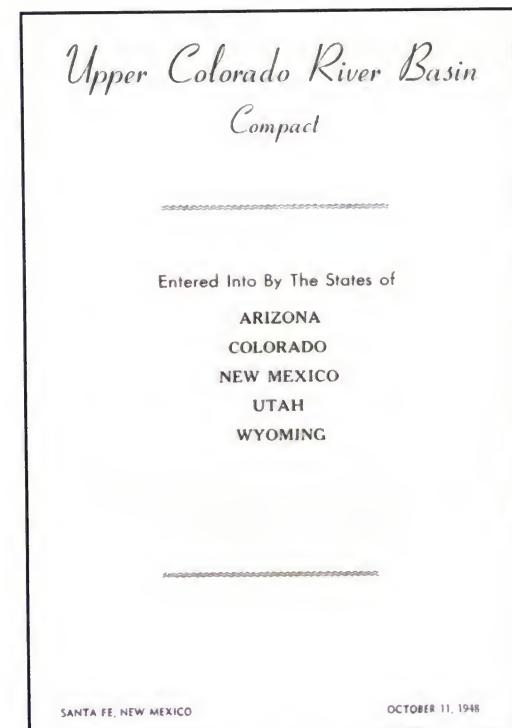
- Under the Upper Colorado River Compact, water diverted in one state and put to beneficial use in another is charged against the Compact allocation of the state of use.
- Based upon an analysis of historical flows, the Bureau of Reclamation has determined that the Upper Basin is entitled to slightly over 6 million acre-feet of water each year. Colorado's apportionment of the amount available is 51.75 %.
- Other states have proceeded to develop their remaining Compact apportionments. New Mexico is pursuing the Navajo – Gallup project pursuant to the Bureau's determination. Utah is proceeding with the Lake Powell pipeline to St. George. These developments will nearly consume both states' Compact apportionments, but they have chosen to move forward to meet their water needs.
- As part of the on-going SWSI process, the Colorado Water Conservation Board has assessed the amount of water available to Colorado under its Compact share. The CWCB study determined that even after development between now and 2030, Colorado will have an undeveloped share of 302,000 – 654,000 acre-feet available.
- The Bureau of Reclamation has modeled the amount of water available to be contracted to RWSP. The Bureau assumed that the Upper Basin states would develop new projects they have identified, that flows below Flaming Gorge Reservoir would be maintained at the levels established by a recent Record of Decision as needed to protect endangered fish, and that reservoir water levels would be maintained as needed to generate electricity.

UTAH'S ROLE

INTERSTATE COOPERATION

Article IX – 1948 Upper Colorado River Basin Compact

- No State shall deny the right... of any signatory State to acquire rights to the use of water, or to construct or participate in the construction and use of diversion works and storage reservoirs...
- Any signatory State, any person or any entity of any signatory State shall have the right to acquire such property rights as are necessary to the use of water in conformity with this compact in any other signatory State by donation, purchase or through the exercise of the power of eminent domain.



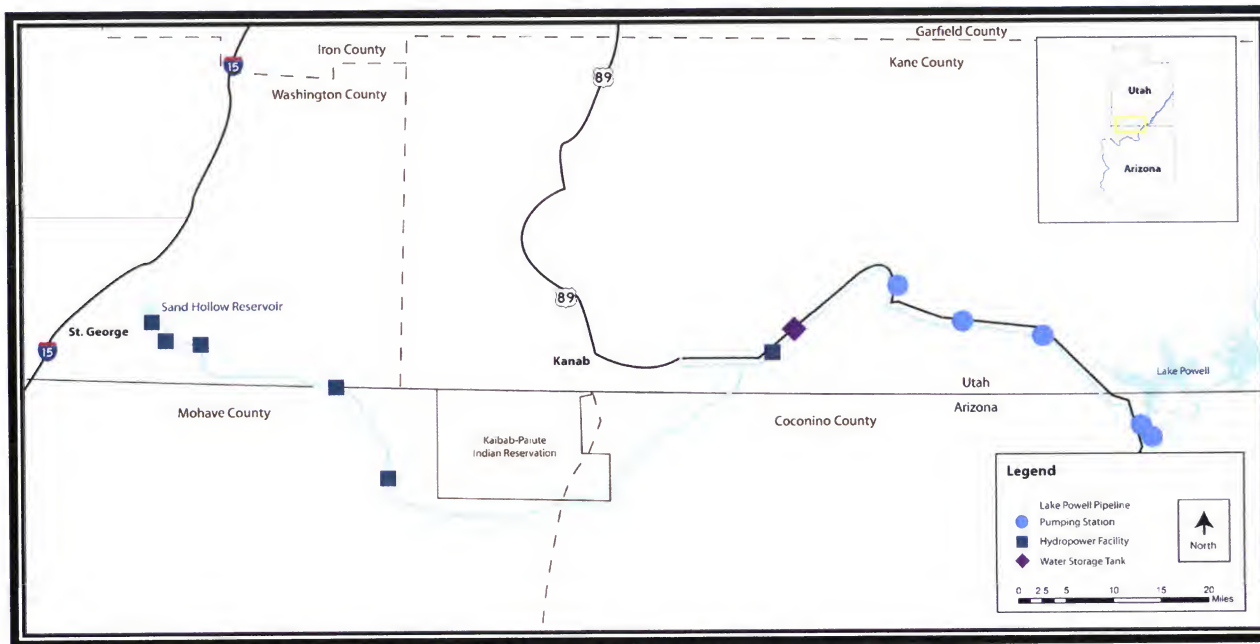
UTAH CONTROL

- Application is consistent with Colorado's compact allocation and will not interfere with Utah's allocation;
- Project recognizes the diversion will be managed within Utah's priority system
- Project operations can be managed to address water supply needs, protect environmental values, and support drought contingency plan goals; all while supporting Colorado's right to use water under the law of the river



PROJECT SUMMARY

LAKE POWELL PIPELINE



- 140 Mile Underground Pipeline
- Point of Diversion in Arizona
- 5 Pump Stations
- 6 Hydroelectric Facilities
- 86,249 Acre Feet of Water/Year
- \$1.1 Billion Estimated Cost

POINT OF DIVERSION

Wildlife UTAH DEPARTMENT OF WILDLIFE RESOURCES

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Blue Ribbon

Pipeline Crossing



General information

Pipeline Crossing provides an extremely limited, primitive, put-in and take-out opposite this location. However, lower gradients and warmer water provide for great wading of the Green. For anglers launching from this location, the nearest take-out is 4.4 miles in Swallow Canyon access point.

Location

This access point is located within the heart of the C section of the Green River. The decimal degree coordinates are 4,525,078.336 meters north and 656,867.165 meters east. The decimal degree coordinates are -109.13662.

Directions

From Salt Lake City, Utah travel east on Interstate 80 toward Cheyenne. After travel exit 34 onto I-80 toward Fort Bridger. Follow the I-80 Business fork for 5 miles; turn right for 43 miles. After reentering Utah, you will be on UT-43. Follow UT-43 for 8 miles; turn left for 28 miles; turning left onto US-191. Travel on US-191 for 5 miles until you reach Browns Park Road, taking a right onto Browns Park Road. Follow Browns Park Road for 7.4 miles to State Route 1364. Follow State Route 1364 for 15.4 miles. Turn right and travel 0.8 miles. Turn right onto this short road to the access area.

Width

The width of the Green River at this location varies from less than 100 feet to 250 feet.

Depth

Water depths vary by season. However, during average flows, depths range from 3 to 10 feet.

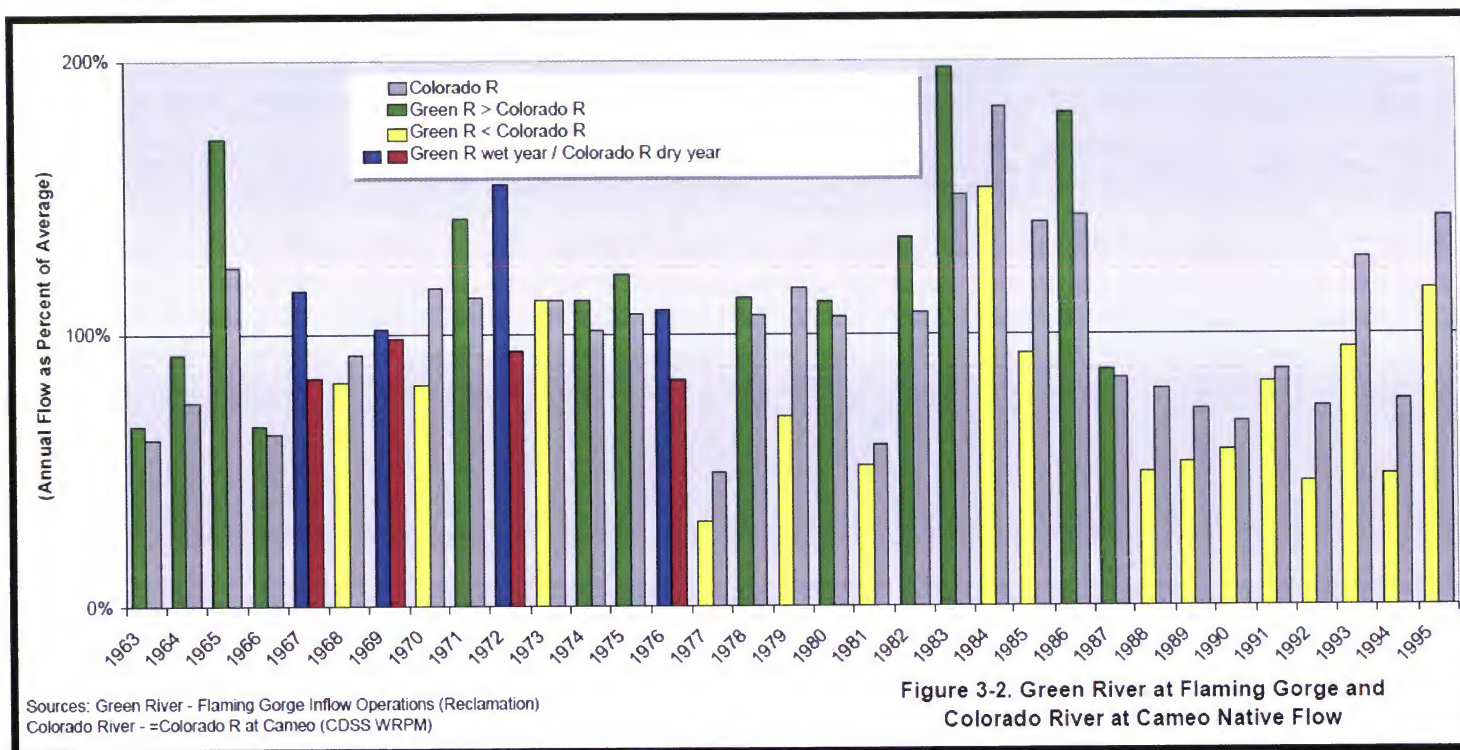
Angling methods

Shore



- 6 Existing Pipelines cross river
- Position on the river

HYDROLOGICAL DIVERSIFICATION



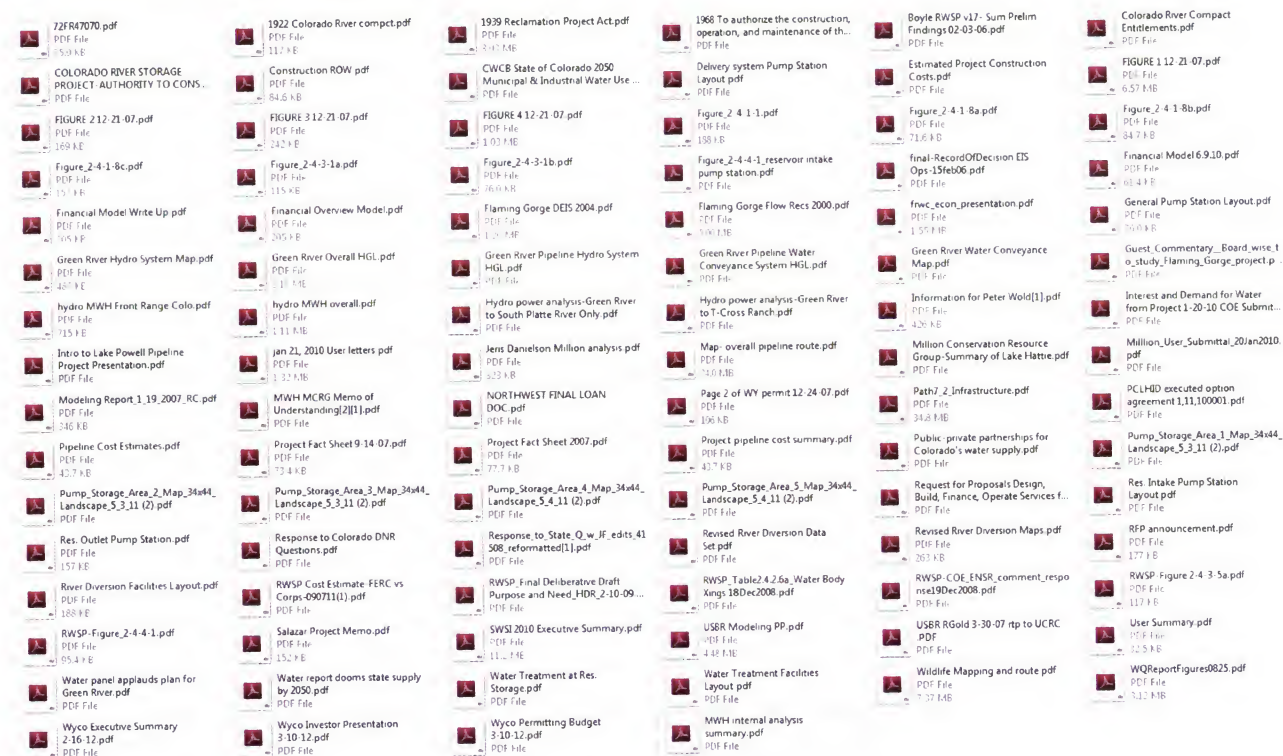
- There are differences between the basins and augmentation potential exists. Particularly in years when the Green River flows are relatively higher than the Colorado River flows (green bars in the figure)
- 17 out of the 33 years the Green is wetter than the Colorado (1963-1995)

ADDENDUM

Current Standing

DUE DILIGENCE (9)

- Sampling of the several hundred Legal/Financial/ Technical/Environmental & Research due diligence documents



- Current Standing

- Due Diligence

BUREAU OF RECLAMATION WATER AVAILABILITY ESTIMATE

"Reclamation has completed an analysis of the amount of water that may be available for diversion and contracting from Flaming Gorge Reservoir. The analysis presumes that Wyoming, Colorado, and Utah will continue to develop their water supplies, continued compliance with the flow recommendations adopted in the 2006 Flaming Gorge Environmental Impact Statement and Record of Decision, and continued use of the active storage pool, which protects the power pool." -3/20/07

Apr. 2, 2007 7:23PM E:\BUREAU\Consulting\337-432-30C21 Ac 2892 P. 2/5



UC-400
WRT-4.03

United States Department of the Interior
BUREAU OF RECLAMATION
Upper Colorado Regional Office
125 South State Street, Room 8107
Salt Lake City, Utah 84111-1147



MAR 30 2007

Mr. Don Ostler
Executive Director
Upper Colorado River Commission
355 South 400 East
Salt Lake City, UT 84111

Subject: Water Marketing From Flaming Gorge Reservoir

Dear Mr. Ostler:

The Bureau of Reclamation has been approached with a request to market water from Flaming Gorge Reservoir. We understand the project proponent has contacted the Upper Colorado River Commission and intends to provide a briefing on the details of the project. Reclamation has completed an analysis of the amount of water that may be available for diversion and contracting from Flaming Gorge Reservoir. The analysis presumes that Wyoming, Colorado, and Utah will continue to develop their water supplies, continued compliance with the flow recommendations adopted in the 2006 Flaming Gorge Environmental Impact Statement and Record of Decision, and continued use of the active storage pool, which protects the power pool.

A certain degree of uncertainty always surrounds yield studies. This analysis used an unusually long and accurate historic record. The modeling was also at a relatively high level of detail. The water supply may be further reduced or impacted by the outcomes of the future National Environmental Policy Act and Endangered Species Act processes associated with this project, and all water supply numbers should be considered preliminary until that process is completed. As one would expect, there is a degree of uncertainty beyond the original 40-year term of the water service contract. The potential contract for this water would reflect this uncertainty and the need for reevaluation at the time of contract renewal.

Our total estimated amount of water available from Flaming Gorge for the next 40 years is relatively small at 165,000 acre-feet per year. Please find enclosed our draft analysis for your review and comment. Mr. Dave Trueman, Manager of the Resources Management Division, is available at 801-524-3759, if you have questions or would prefer a briefing.

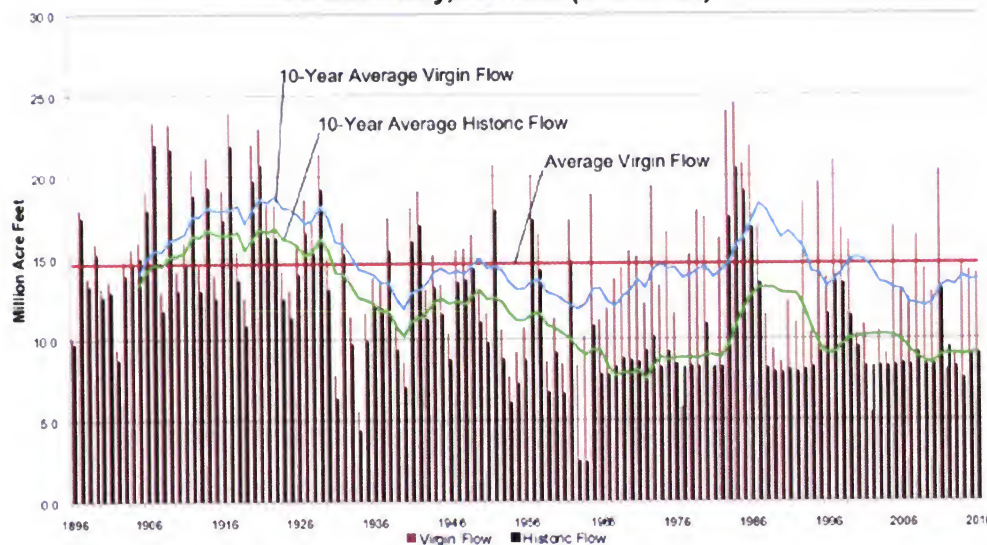
Sincerely,

Rick L. Gold
BUREAU OF RECLAMATION

Our total estimated amount of water available from Flaming Gorge for the next 40 years is relatively small at 165,000 acre-feet per year. Please find enclosed our draft analysis for your review and comment.

UCRC/BOR - AVAILABILITY IN THE SYSTEM

Colorado River Flow
At Lee Ferry, Arizona (W.Y. 2016)



Consumptive Uses and Losses

Table: Summary
Upper Colorado River System: Water Use by States, Basins, and Tributaries¹
(1,000 acre-feet)

STATE AND BASIN OF USE	2011	2012	2013	2014	2015	Average 2011-15
ARIZONA						
Upper Basin	35	34	35	36	29	34
COLORADO						
Upper Basin	2,268	2,632	1,952	1,925	1,644	2,450
NEW MEXICO						
Upper Basin	401	347	341	358	392	374
UTAH						
Upper Basin	815	921	962	803	758	868
WYOMING						
Upper Basin	398	372	370	355	354	385
OTHER²						
Upper Basin Colorado River Storage Project Reservoir Evaporation	570	617	424	424	461	544
UPPER COLORADO RIVER SYSTEM						
Upper Basin	3,916	4,306	3,659	3,476	3,177	4,111
Other: Reservoir Evaporation and Channel Losses	570	517	424	424	461	544
Grand Total	4,486	4,823	4,083	3,900	3,638	4,655
UPPER COLORADO RIVER SYSTEM GRAND TOTAL	4,486	4,823	4,083	3,900	3,638	4,655

¹ Onsite consumptive uses and losses includes water uses satisfied by groundwater.

² Mainstem reservoir evaporation in the Upper Basin

Draft Scoping Report to BLM	1 month
BLM Review	1 month
Revised Scoping Report to BLM	1 month
Preliminary Field Surveys	2 months
Alternative Development Meetings	1 month
Draft Alternative Route Analysis	2 months
Preliminary Draft EIS Chapters 1 – 2 to BLM	1 month
BLM Review	1 month
Preliminary Draft EIS to BLM and CAs	4 months
Agency Review	2 months
Incorporate Agency Comments	1 month
BLM Washington Office (WO) Review of Revised Draft EIS	At least 3 – 4 months
Incorporate BLM WO Comments	2 months
Publish Notice of Availability / Draft EIS to Public	3 months
Public Comment on Draft EIS	2 months
Public Comment Matrix to BLM	1 month
Preliminary Final EIS to BLM and CAs	3 months
Agency Review	2 months
Incorporate Agency Comments	1 month
Prepare Draft Record of Decision (ROD)	1 month (concurrent with incorporating agency comments)
BLM WO Review of Final EIS and Draft ROD	At least 3 – 4 months
Final EIS to Public	2 months
45-Day Objection Period	2 months
45-Day Objection Resolution	2 months
Record of Decision	3 months
Total Project Length	18 – 36 months

Unit Cost per mile

Desktop Study & Analysis for Natural & Cultural Resources: \$ 2,680

Unit Cost per mile for Focused Field Survey for Natural and Cultural Resources: \$ 9,800

Projected cost focused field survey – 70 miles

Projected cost desktop analysis – 330 miles

Total estimated cost - \$1.570 million

- The Project

USERS (4)

- Letters of Interest Totaling 358,500 ac-ft. as of Jan 2010
 - Municipal, industrial and Ag interest
 - In both Wyoming to Colorado
- Anticipate additional demand interests and hard contracts closer to final permit

Million Conservation Resource Group
Summary of Letters of Interest submitted to Corps of Engineers 1-20-2010

	Geographic Area	Primary Use	Type	Range	
				Low	High
Colorado					
Douglas County	Douglas County	M&I			40,000
Fort Collins-Loveland Water District	Lanimer County	M&I			5,000
City of Brighton	City of Brighton	M&I			12,000
North Sterling Irrigation District	Logan County	Ag			25,000
Prewitt Operating Committee-Logan Irrigation District, Iliff Irrigation District and Morgan Prewitt Reservoir Company	Logan County	Ag	Supp		10,000
Larimer and Weld Irrigation Company	Larimer and Weld Counties	Ag			20,000
Windsor Reservoir and Canal Company	Larimer and Weld Counties	Ag			10,000
Woodmoor Water & Sanitation District	El Paso County	M&I			3,000
T-Cross Ranches/Norris Cattle, Inc.		Ag, M&I			20,000
East Lanimer County Water District	Lanimer and Weld Counties	AG, M&I ?			5,000
Penly Water Company, LLC		AG, M&I ?			10,000
Lower South Platte Water Conservancy District	Morgan, Logan, Sedgwick and Washington Counties	Ag, M&I			35,000
Central Colo Water Conservancy Dist.-Well Augmentation Subdistrict	Weld, Adams and Morgan Counties	Ag, M&I			50,000
Central Colo Water Conservancy Dist.-Groundwater Management Subdistrict	Weld, Adams and Morgan Counties	Ag, M&I	Augment		50,000
Central Colo Water Conservancy District	Weld, Adams and Morgan Counties	Ag, M&I			50,000
Colorado Subtotal					345,000
Wyoming					
Lake Hattie	Albany County	Ag			8,000
Cheyenne	Cheyenne, Laramie County	M&I		3,500	5,500
Torrington					
Wyoming Subtotal				3,500	13,500
TOTAL				3,500	358,500

PROJECT HISTORY

- U.S. Army Corps of Engineers (“COE”) initiated formal EIS/NEPA process (03/09)
 - ENSR, AECOM,
- Submitted (to COE) formal Letters of Interest totaling 358,000 acre feet from 17 entities representing municipal, agricultural and private users in Colorado and Wyoming (01/10)
- COE developing Purpose and Need, finalized public scoping, initiated socio-economic studies and preliminary water modeling (02/10)
- Initiated preliminary permit application to FERC for permitting hydropower production and water supply (09-11)